Recreation Modeling for the Oroville Relicensing Project

- Presentation to the Oroville Relicensing Recreation and Socioeconomics Work Group, February 27, 2003

Recreation Modeling for the Oroville Relicensing Project

- What's a model?
  - A standard or example for imitation
  - A representation of the "real" world
  - A mathematical equation that expresses a relationship between two or more variables (such as lake levels and recreation attendance)

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Recreation Modeling for the Oroville Relicensing Project

- Some features of models to keep in mind
  - Predict outcomes for variables of interest (lake levels predict recreation attendance)
  - Need to pass the "common sense" test
  - Are highly dependent on quality of data being used (the GIGO principle)
  - Are not perfect!!

Recreation Modeling for the Oroville Relicensing Project

- For the Oroville recreation studies, mathematical models will be used for study R3: Projected Operations Impacts on Recreation, and R12: Projected Recreation Use
- In addition, results from the models will be used as inputs for study R18: Economic Impacts and for study R19: Fiscal Impacts

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- Steps in model development and use
  - Model review, looked at other models (done)
  - Review of existing data (in progress)
  - Model specification and definition of variables
  - Model estimation and testing (find the "best fit")
  - Use model to describe existing recreation attendance and to predict future attendance during the next license period
  - Use model results as an input for the economics and fiscal model for studies R18 and R19

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- Variables that will probably be used:
  - Recreation attendance records (mandatory)
  - Monthly mean pool elevation for Lake Oroville, or some variation (mandatory)
  - Population of northern California
  - Local or regional unemployment
  - Ambient temperature
  - Conditions at substitute sites

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- Some of the modeling studies reviewed:
  - An Economic Assessment of Alternative Water-level Management for Shasta and Trinity Lakes (USDA Southeastern Forest Experiment Station)
  - Economic and Fiscal Impacts of Predicted Changes in Recreation Activity (report prepared for Monterey County Water Resources Agency)
  - Central Valley Project Improvement Act EIS

Recreation Modeling for the Oroville Relicensing Project

- Expected modeling approach
  - Summer season model, using available monthly attendance data
  - Annual model, using Fiscal Year attendance data
  - Adjustments and refinements of model results
    - Systematic undercounting of use??
    - Estimates of use by activity
    - Estimates of use by location